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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/772,176	01/29/2001	James A. Proctor JR.	TAN-2-1508.01.US	1093

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PHILADELPHIA, PA 19103

EXAMINER
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BURD, KEVIN MICHAEL

ART UNIT	PAPER NUMBER
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2611

MAIL DATE	DELIVERY MODE
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02/04/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/772,176	<b>Applicant(s)</b> PROCTOR, JAMES A.	
	<b>Examiner</b> Kevin M. Burd	<b>Art Unit</b> 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-14,16,17,19,21,22,25-36,39 and 42 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-14,16,17,19,21,22,25-36,39 and 42 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

1. This office action, in response to the request for continued examination and the amendment filed 1/20/2010, is a non-final office action.

***Continued Examination Under 37 CFR 1.114***

2. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/20/2010 has been entered.

***Response to Arguments***

3. Applicant's arguments with respect to claims 1, 2, 5-14, 16, 17, 19, 21, 22, 25-36, 39 and 42 have been considered but are moot in view of the new grounds of rejection.
4. A new claim objection is stated below.

***Claim Objections***

5. Claims 1, 2, 5-14, 16, 17, 19, 21, 22, 25-36, 39 and 42 are objected to because of the following informalities: Independent claims 1, 21 and 42 recite a limitation of detecting an amount of motion of a communication device. It is unclear where this limitation is recited in the specification. The citation provided by applicant discloses a

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step of detecting whether motion has occurred but does not detect the amount of that motion. The example on page 8, line 21 to page 9, line 18 of the originally filed specification discloses a train 200 is stopped and corresponding communication takes place. Alternatively, figure 2b discloses the train is now moving and a different communication takes place. The amount of motion is not detected other than the fact that motion itself is detected (the amount of motion is greater than zero). This is the interpretation of the recited limitation for examination purposes. This interpretation is consistent with the specification. Page 11, lines 25-29, further discloses a "rapid change detected" flag that is used to indicate motion has occurred. No flag is used when rapid changes are not detected. This further supports the examiner's interpretation of the claimed limitation that the actual amount of motion is not detected. If this limitation is supposed to indicate a motion amount value is detected, additional clarification is required as to where this feature is disclosed in the specification.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 2, 11-14, 16, 17, 19, 21, 22, 31-36, 39 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kong et al (US 6,700,881) in view of Bucher (US 5,621,737).

Regarding claims 1, 2 and 19, Kong discloses a CDMA communication system. The receiver detects when the distance between the base station and the mobile station increases (column 2, lines 9-13). A reduction of the SNR and a corresponding increase in the BER detects this amount of motion of the communication device (column 2, lines 3-25). When the distance between the base station and the mobile station increases, the transmission device will compensate by increasing the transmission power or performing a pertinent compensation (column 2, lines 14-19). Lowering of the FEC or coding rate would be a pertinent compensation (column 3, lines 3-26). Kong does not explicitly disclose how the BER or SNR is determined. Therefore, Kong does not disclose a measurement of a metric of the modulated signal attribute comprising at least one of amplitude, phase and frequency. Bucher discloses a BER estimation circuit 36, which determines a value responsive to error magnitudes occurring over several symbols (column 4, lines 22-23). It will be appreciated that errors may be phase errors, magnitude errors or a combination of both (column 4, lines 31-34). Therefore, the BER measurement determines the phase and/or magnitude errors of the received signal. It would have been obvious for one of ordinary skill in the art at the time of the invention to provide this simple substitution of the BER estimator of Bucher for the BER estimator of Kong. These components will operate in substantially the same manner and will yield the same results.

Regarding claims 11-13, the combination of Kong and Bucher discloses the method stated above. MPEP 2111.04 discloses claim scope is not limited by steps that suggests or makes optional but does not require steps to be performed. Calculating the

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metric based on a frequency error signal as recited in these dependent claims are optional limitations since different modulated signal attributes are met by the reference.

Regarding claim 14, Kong discloses changes to the BER and SNR are determined and power increases and changes to the FEC or coding rate take place when necessary.

Regarding claims 16 and 17, the combination of Kong and Bucher discloses the method stated above. MPEP 2111.04 discloses claim scope is not limited by steps that suggests or makes optional but does not require steps to be performed. Selecting the parameter adjustment of an antenna mode as recited in these dependent claims are optional limitations since different parameter adjustments are met by the reference.

Regarding claims 21, 22, 39 and 42, Kong discloses a CDMA communication system. The receiver detects when the distance between the base station and the mobile station increases (column 2, lines 9-13). A reduction of the SNR and a corresponding increase in the BER detects this amount of motion of the communication device (column 2, lines 3-25). When the distance between the base station and the mobile station increases, the transmission device will compensate by performing a pertinent compensation (column 2, lines 14-19). Lowering of the FEC or coding rate would be the pertinent compensation (column 3, lines 3-26). Kong does not explicitly disclose how the BER or SNR is determined. Therefore, Kong does not disclose a measurement of a metric of the modulated signal attribute comprising at least one of amplitude, phase and frequency. Bucher discloses a BER estimation circuit 36, which determines a value responsive to error magnitudes occurring over several symbols

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(column 4, lines 22-23). It will be appreciated that errors may be phase errors, magnitude errors or a combination of both (column 4, lines 31-34). Therefore, the BER measurement determines the phase and/or magnitude errors of the received signal. It would have been obvious for one of ordinary skill in the art at the time of the invention to provide this simple substitution of the BER estimator of Bucher for the BER estimator of Kong. These components will operate in substantially the same manner and will yield the same results.

Regarding claims 31-33, the combination of Kong and Bucher discloses the method stated above. MPEP 2111.04 discloses claim scope is not limited by steps that suggests or makes optional but does not require steps to be performed. Calculating the metric based on a frequency error signal as recited in these dependent claims are optional limitations since different modulated signal attributes are met by the reference.

Regarding claim 34, Kong discloses changes to the BER and SNR are determined and power increases and changes to the FEC or coding rate take place when necessary.

Regarding claims 35 and 36, the combination of Kong and Bucher discloses the method stated above. MPEP 2111.04 discloses claim scope is not limited by steps that suggests or makes optional but does not require steps to be performed. Selecting the parameter adjustment of an antenna mode as recited in these dependent claims are optional limitations since different parameter adjustments are met by the reference.

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7. Claims 5-7 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kong et al (US 6,700,881) in view of Bucher (US 5,621,737) further in view of Watanabe (US 2001/0041584).

Regarding claims 5-7 and 25-27, the combination of Kong and Bucher discloses the method and apparatus discloses above. The combination does not disclose an automatic gain control loop is found in the receiver. Watanabe discloses a CDMA receiver that includes the AGC amplifier 37A in figure 1. The AGC amplifier is provided for amplifying the received signal to a desired signal level, in which its gain may automatically be controlled to optimum so that its received power may become as minimal as necessary depending on the distance from the base station (paragraph 0066). Therefore, the receiver will increase the received signal level as the distance between the receiver and the base station increases so the signal can be received and processed correctly. This variable gain control will further minimize errors in the received signal. For these reasons, it would have been obvious for one of ordinary skill in the art at the time of the invention to combine the AGC amplifier of Watanabe into the receiver and method of the combination of Kong and Bucher.

8. Claims 8-10 and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kong et al (US 6,700,881) in view of Bucher (US 5,621,737) further in view of Ryu (US 6,430,244).

Regarding claims 8-10 and 28-30, the combination of Kong and Bucher discloses the method and apparatus discloses above. The combination does not disclose the



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phase errors are produced by a delay locked loop. Ryu discloses a digital phase locked loop. The PLL will lock the received signal with a delayed version of a feedback signal by altering the feedback signal's phase as shown in figure 3. The PLL circuit includes a phase comparator for detecting phase errors of the input signal and a feedback signal (abstract). The PLL is a typical method of detecting phase errors from a received signal and an expected signal. The PLL is a well known, simple and cost effective method of determining and correcting phase errors in a received signal. For these reasons, it would have been obvious for one of ordinary skill in the art at the time of the invention to combine the method of determining the phase errors of Ryu into the method and receiver of the combination of Kong and Bucher.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin M. Burd whose telephone number is (571) 272-3008. The examiner can normally be reached on Monday - Friday 9 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David C. Payne can be reached on (571) 272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Kevin M. Burd/  
Primary Examiner, Art Unit 2611  
1/31/2010